

OK to
enter
SMC
4/12/07

Application No.: 10/712590

Case No.: 59390US002

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously Presented) A method of making a crosslinked polymer comprising the steps of:
 - a) providing a highly fluorinated fluoropolymer comprising: a backbone derived in part from tetrafluoroethylene monomer, first pendent groups which include a group according to the formula $-SO_2X$, where X is F, Cl, Br, OH or O-M⁺, where M⁺ is a monovalent cation, and second pendent groups which include Br; and
 - b) exposing said fluoropolymer to electron beam radiation so as to result in the formation of crosslinks.
2. (Original) The method according to claim 1 wherein said method additionally comprises, prior to said step b), the step of:
 - c) forming said fluoropolymer into a membrane.
3. (Original) The method according to claim 1 wherein said membrane has a thickness of 90 microns or less.
4. (Original) The method according to claim 1 wherein said step of exposing said fluoropolymer to electron beam radiation comprises exposing said fluoropolymer to greater than 1 Mrad of electron beam radiation.
5. (Original) The method according to claim 1 wherein said step of exposing said fluoropolymer to electron beam radiation comprises exposing said fluoropolymer to greater than 3 Mrad of electron beam radiation.
6. (Original) The method according to claim 1 wherein said step of exposing said fluoropolymer to electron beam radiation comprises exposing said fluoropolymer to greater than 15 Mrad of electron beam radiation.

Application No.: 10/712590

Case No.: 59390US002

7. (Original) The method according to claim 1 wherein said highly fluorinated fluoropolymer is perfluorinated.

8. (Original) The method according to claim 1 wherein said pendent groups are according to the formula R_1SO_2X , where R_1 is a branched or unbranched perfluoroalkyl or perfluoroether group comprising 1-15 carbon atoms and 0-4 oxygen atoms, and where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

9. (Original) The method according to claim 1 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4SO_2X$, where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

10. (Original) The method according to claim 1 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4SO_3H$.

11.-12. (Canceled)

13. (Original) The method according to claim 2 wherein said pendent groups are according to the formula R_1SO_2X , where R_1 is a branched or unbranched perfluoroalkyl or perfluoroether group comprising 1-15 carbon atoms and 0-4 oxygen atoms, and where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

14. (Original) The method according to claim 2 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4SO_2X$, where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

15. (Original) The method according to claim 2 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4SO_3H$.

Application No.: 10/712590

Case No.: 59390US002

16.-17. (Canceled)

18. (Original) The method according to claim 3 wherein said pendent groups are according to the formula R_1SO_2X , where R_1 is a branched or unbranched perfluoroalkyl or perfluoroether group comprising 1-15 carbon atoms and 0-4 oxygen atoms, and where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

19. (Original) The method according to claim 3 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4-SO_2X$, where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

20. (Original) The method according to claim 3 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4-SO_3H$.

21.-22. (Canceled)

23. (Original) The method according to claim 4 wherein said pendent groups are according to the formula R_1SO_2X , where R_1 is a branched or unbranched perfluoroalkyl or perfluoroether group comprising 1-15 carbon atoms and 0-4 oxygen atoms, and where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

24. (Original) The method according to claim 4 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4-SO_2X$, where X is F, Cl, Br, OH or $O-M^+$, where M^+ is a monovalent cation.

25. (Original) The method according to claim 4 wherein said pendent groups are groups according to the formula $-O-(CF_2)_4-SO_3H$.

26.-27. (Canceled)

Application No.: 10/712590

Case No.: 59390US002

28. (Original) The method according to claim 1 wherein step c) comprises imbibing said fluoropolymer into a porous supporting matrix.
29. (Original) The method according to claim 28 wherein said porous supporting matrix is a porous polytetrafluoroethylene web.
- 30.-58. (Canceled)